MONTHLY WEATHER REVIEW.

JUNE, 1894.

VOL. XXII. WASHINGTON, D. C. No. 6.

INTRODUCTION.

The REVIEW for June, 1894, is based on reports from 3,064 stations occupied by regular and voluntary observers. These reports are classified as follows: 148 reports from Weather Bureau stations; 41 reports from U. S. Army post surgeons; 2,059 monthly reports from State weather service and voluntary observers; 34 reports from Canadian stations; 205 reports through the Southern Pacific Railway Company; 468 marine reports through the co-operation of the Hydrographic Office, Navy Department, and "New York Herald Weather Service;" monthly reports from 36 U. S. Life-Saving stations; 73 reports from navigators on the Great Lakes; monthly reports from local services established in all States and Territories; and international simultaneous observations. Trustworthy newspaper extracts and special reports have also been used.

The WEATHER REVIEW for this month has been prepared under the general editorial supervision of Prof. Cleveland Abbe. The statistical tables are furnished by the Division of Records and Meteorological Data, in charge of Mr. A. J. Henry, acting chief of that division.

CHARACTERISTICS OF THE WEATHER FOR JUNE, 1894.

The most prominent meteorological features of the month of June were the absence of extensive and destructive cyclonic storms in the United States; the occurrence of the groups of violent local storms, many of them having the characteristics of tornadoes, on the 27th in Minnesota, South Dakota, and Kansas, and the areas of severe thunderstorms on the 20th in Nebraska and Iowa, and the 24th to 27th, from Missouri to Ohio; the abnormal high average temperatures of the upper Lake and North Dakota regions, and the corresponding low temperatures of the middle plateau region; the large rainfall of the middle Rocky Mountain slope, and the large deficiency of the upper Mississippi Valley and east Gulf States.

ATMOSPHERIC PRESSURE.

[In inches and hundredths.]

The distribution of mean atmospheric pressure reduced to sea level, as shown by mercurial barometers not reduced to standard gravity and as determined from observations taken daily at 8 a. m. and 8 p. m. (seventy-fifth meridian time), during June, 1894, is shown by isobars on Chart II. That portion of the reduction to standard gravity that depends on latitude is shown by the numbers printed on the right-hand border. This Chart also gives the so-called resultant wind directions for this month, based on the data given in Table IX of this REVIEW.

During the current month of June the pressures at sea level have been highest on the immediate coast of the south Atlantic States, where it has averaged 30.10. Pressure has been lowest in Assiniboia and Saskatchewan, 29.75, or less; an equivalent area of low pressure has also prevailed at the head of the Gulf of California. These two regions of low pressure represent the trough existing between the high pressures on the Atlantic and Pacific oceans.

The normal distribution of atmospheric pressure and normal resultant wind direction for the month of June were approximately shown on Chart V of the REVIEW for June, 1893, as computed by Prof. H. A. Hazen, and are not now reproduced. As compared with the normal for June, the mean pressure for the current month was in excess throughout the greater part of the United States, the maximum excess being 0.07 in Arkansas and on the coast of the south Atlantic States. The pressure was below the normal in the British Possessions and the northern border of the United States. The area over which the deficit was 0.05 to 0.08 covered South Dakota, northern Montana, Athabasca, and Alberta.

As compared with the preceding month of May pressure had risen throughout the Middle States, Ohio Valley, and southward to the Gulf, the maximum rise being 0.10 on the coast of North Carolina. Pressure had fallen over the Missouri Valley, eastern Rocky Mountain slope, and northward to British America, the maximum fall being from 0.10 to 0.18 in Manitoba, North Dakota, Assiniboia, and Athabasca.

DIURNAL VARIATIONS.

The systematic periodic diurnal variations of pressure are shown by the hourly means given in Table VI.

AREAS OF HIGH AND LOW PRESSURE.

The following sections give some details as to the phenomena attending the individual areas of high and low pressure. The storm warnings officially issued either by the Weather Bureau through the general forecast official at Washington, or by the respective local forecast officials, are enumerated in connection with the respective areas of disturbance.

MOVEMENTS OF CENTERS.

The following table shows the date and location of the